

### **Abstract**

The present invention provides a digital (computational) branch calibrator which uses a feedback signal sensed from an RF transmit signal path following the combining stage of LINC circuitry of a transmitter to compensate for gain and phase imbalances occurring between branch fragment signals leading to the combiner. The calibrator feeds a quiet (zero) base band signal through the transmit path during the calibration sequence (i.e. a period when data is not transmitted) and adjusts the phase and gain of the phasor fragment signals input thereto by driving the sensed output power to zero. The calibration is performed by alternating phase and gain adjustments with predetermined (programmable) and multiple update parameters stages (speeds). A baseband modulation is preferably used to distinguish false leakage (e.g. due to local oscillator, LO, feed through and DC offset in the base band Tx) from imbalance leakage.